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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,895	06/28/2001	Hiromichi Hayashi	010845	1586

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ARMSTRONG, WESTERMAN & HATTORI, LLP
1725 K STREET, NW.
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

DICUS, TAMRA

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 09/12/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,895

Applicant(s)

HAYASHI ET AL.

Examiner

Tamra L. Dicus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2001 (priority).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 5-6, 8-10 are objected to because of the following informalities: The word “glost” appears to be misspelled. Appropriate correction is required.
2. The abstract of the disclosure is objected to because it contains more than one paragraph. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 18-23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is no description on how to make the overcoat layer.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what the overcoat layer is comprised of. Therefore, the Examiner takes the position that any coating over the article will suffice.

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6. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to how glass is inserted/placed between the coloring material and water-soluble adhesive. Further, it is confusing as to what layer the coloring material is on, the glass or the adhesive.

In claim 18, it is unclear what the phrase "present position" means.

7. The term "preferably" and "more preferably" in claims 11-13, 16, 17, 19, 20, 24 and 25, are relative terms which renders the claim indefinite. The terms "preferably" and "more preferably" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

8. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, the phrase "an intermediate glass layer of glass" is redundant-please rephrase.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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10. Claims 1-3, 5-17 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,747,153 to McDaniel.

McDaniel teaches it is well known in the art to apply a vitreous flux and inorganic Pigment (col. 1, lines 50-56) (coloring material and intermediate glass layer) to a substrate such as chinaware, glass (ceramic object having a glazed surface), and/or glazed ceramic objects having an overglaze of luster inorganic pigment with a metal oxide (silica, alumina, ferric oxide, zirconium oxide) (raised coloring material with glass flux and inorganic pigment) (col. 2, lines 50-67). See further col. 3, lines 2-30. Regarding claims 1, 7, 11, 12, 17-20, and 25, the glass transition temperatures of glass and glass flux are inherent properties. Moreover, McDaniel further teaches glass/glass flux having 400 degrees F – 1600 degrees F at col. 4, lines 44-66, and col. 5, line 37, which is included in the Applicant's range of 450 to 700 degrees C. McDaniel teaches at col. 1, lines 50-56 the "in-glaze decoration" process. However, the limitation "in-glaze coloring/decoration" is a process limitation in a product claim. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. Patentability of an article depends on the article itself and not the method used to produce it (see MPEP 2113). Furthermore, the invention defined by a product-by-process invention is a product NOT a process. *In re Bridgeford*, 357 F. 2d 679. It is the patentability of the product claimed and NOT of the recited process steps which must be established. *In re Brown*, 459 F. 2d 531.

Regarding claim 2, McDaniel teaches the width limitation between 1 to 180 microns of the coloring material at col. 3, lines 9-10 and the luster pigment coating thickness of 3 to less than 25 microns at col. 5, line 12, which is included in the Applicant's range of 20 and 250

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micrometers. McDaniel is silent to teaching the "as-fired state", however, this is a process limitation in a product claim, process notwithstanding. See MPEP 2113.

Regarding claims 5, 6, 8-10, the firing temperature of the ceramic substrate is not germane since firing is a process limitation in a product claim, process notwithstanding. See MPEP 2113.

Regarding claim 14, McDaniel teaches a glass flux free of lead at col. 3, lines 13-15.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 4, 13, 15, 16, and 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,747,153 to McDaniel in view of USPN 5,370,913 to Lin.

As applied above, McDaniel teaches the claimed invention. However, McDaniel does not explicitly state the glass thicknesses of claims 4, 13, 15, 16, 21, 23, 24. However, optimization of components in an article are obvious as the thickness effects crack resistance and sound insulation. See further col. 1, lines 24-30. A *prima facie* case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215. Therefore it would have been obvious to one of ordinary skill in the art to modify the glass/ceramic article of McDaniel to optimize glass or glass composition thicknesses as taught by Lin since glass may be

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size may be modified to increase penetration resistance, high crack resistance, and better sound insulation as taught by Lin at col. 2, lines 30-33. See further col. 3, line 36 and 57.

While McDaniel is silent to a glass article comprising paper, Lin teaches a glass article containing paper. Figures 1-4 of Lin teach a transcription sheet of a ceramic article comprising: paper (3), a water soluble adhesive layer (2) formed on a base sheet (4), raised coloring material layer forming a pattern at certain positions (2') having inorganic pigment and glass frit (see col. 3, lines 20-30) on an adhesive layer (2). While Lin and McDaniel are silent to teaching a glass layer between an adhesive and color layer, it would have been obvious to one of ordinary skill in the art to modify McDaniel's glass/ceramic article to include glass adjacent to an adhesive since Lin teaches adhesive on top of a glass layer for lamination purposes at col. 29.

Regarding claim 22, Lin teaches a glass flux free of lead at col. 3, lines 23-24.

13. Claims 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over 3,956,558 to Blanco et al. in view of USPN 5,747,153 to McDaniel.

Blanco teaches a decal for coating ceramic/glass articles comprising: Paper with a water-soluble gum/adhesive layer, a design/pigment layer (coloring material) comprising metal oxides and inorganic pigment in the form of a pattern printed over the adhesive layer, an intermediate glass layer over the design layer, and a protective overcoat layer over the glass. See col. 1, lines 17-35, lines 55-67, col. 2, lines 1-20, and col. 3, lines 1-41. Moreover, Blanco teaches that a coloring/design layer may also be over a glass layer at col. 4, lines 44-46, and additionally may be mixed with the pigment to fuse glass into becoming part of a pattern at col. 2, lines 1-6. While Blanco does not expressly state the pattern printed is in a present position, since Blanco states the design is printed in a pattern, the phrases are equivalent.

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Regarding claim 22, Blanco states lead is toxic and may not be included in ceramic articles since it is poisonous upon intake at col. 3, lines 10-24, and if included, Blanco designs the structure so that glass acts as the barrier at will not allow lead to leave the design/color layer. Moreover, Blanco states titanium dioxide by itself may be used by itself in a glass flux (see col. 5, lines 2-4). In addition, McDaniel teaches coloring material with the absence of lead at col. 3, lines 12-15. Therefore it would have been obvious to one of ordinary skill in the art to modify the decorative decal of Blanco to exclude lead as taught by McDaniel, since lead is toxic and poisonous as taught by Blanco at col. 3, lines 10-24.

Glass transition temperatures of glass and glass flux are inherent properties. Moreover, Blanco teaches glass transition temperatures being less than 1000 degrees F, less than 537 degrees C for low melting at col. 6, lines 20-21.

While Blanco states the thicknesses of claims 21, 23, and 24, for glass may be from 6 to 28 microns and the design layer may be a ration of 1:1 to 3:1/2:1 at col. 30-36, meeting Applicant's claimed ranges. See further col. 8, lines 49-55

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Tamra L. Dicus
Examiner
Art Unit 1774

September 9, 2002

CYNTHIA H. KELLY,
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

